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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER				
LE, DANG D				
ART UNIT		PAPER NUMBER		
2834				

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Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Applicati n No.	Applicant(s)	
	09/922,144	HENTE, DIRK	
	Examiner	Art Unit	
	Dang D Le	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2 is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-17 is/are rejected.
- 7) ☒ Claim(s) 18 and 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s) _____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. In regard of copies of the other references, the United States Patent and Trademark Office is in the process of converting paper files into electronic files. The U. S. references can be downloaded from the US PTO web page. Therefore, the Patent Office no longer sends copies of the U. S. references.
2. Applicant's arguments filed 8/31/03 have been fully considered but they are not persuasive.

Regarding the Kuriyama reference (5,424,591), the coil (8) must be located in the yoke (1) although the arm (7) can be above or below the yoke. If the coil (8) is outside the yoke (1), the actuator will not work because there is no flux interaction between the coil (8) and the permanent magnets (5). Figure 2 of Ogawa (5,731,642) shows an actuator similar to the actuator in Figure 1 of Kuriyama.

In addition, because the yoke (1) is formed of a stack of laminations made of soft magnetic metal, the magnetic flux of the permanent magnets (5) can flow in components (2, 3, and 4). Figures 3 and 4 of Ogawa (5,731,642) shows the magnetic return path. The shielding wall in Kuriyama is the portion (3) with two openings (10). The magnetic flux of the permanent magnets (5) and the electromagnetic field generated by the coil (8) are blocked by the walls (3) and (4).

Regarding the rejection of claim 1, because Niemela reference (3,493,793) and Hartman reference (6,157,099) are classified in the same class 310, it would have been

obvious to one having ordinary skill in the art to combine those references. Moreover, references may be combined although none of them explicitly suggests combining one with the other. In re Nilssen, 7 USPQ2d 1500 (Fed. Cir. 1989).

In fact, because the actuator of Hartman can provide precise positioning of a swing arm tip, it would have been obvious to one having ordinary skill in the art to replace the permanent magnet (37), the magnetic poles (38, 39), and the yoke (55) shown in Figure 4 of Niemela with the coil (22), the yoke (25), and at least two permanent magnets (24) shown in Figure 3 of Hartman. It is also noted that Niemela does not have to show two permanent magnets because Hartman teaches to use at least two permanent magnets (24).

In the art of motor and generator, which also includes linear, reciprocating, and oscillating actuator, the stator (non-moving components) and rotor (moving components) can be made with either permanent magnets or coils. Giuliani et al. (5,263,218) show non-moving component with coils (116) and moving component with two permanent magnets (110, 112) in Figure 7 and Shiraki (5,038,062) shows non-moving component with coils (5A, 6A) and moving component with a permanent magnet (12). In contrast, Umehara et al. (5,057,723) show an actuator with moving coil (7) and non-moving permanent magnets (3).

Regarding the rejection of claims 5 and 7, it is noted that Motohashi et al. do not show a single blade spring. Motohashi et al. show two sets of blade springs (31A and 31B) in Figure 2. Motohashi et al. also teach that blade springs (31A, 31B) can be used in place of coil springs (31). Therefore, it would have been obvious to one having

ordinary skill in the art to replace the coil springs (44) in Figure 4 of Niemela with the blade springs.

Regarding the rejection of claims 12-16, please see the reference numerals identified in this office action.

Regarding the rejection of claim 6, please see the reference numerals identified in this office action. In addition, the two pivot points in Hanrahan et al. are (16) and (22). Boutaghou et al. also show two pivot points (34) and (36) in Figures 1, 2, and 5.

Regarding the rejection of claim 11, please see the reference numerals identified in this office action. In addition, Motohashi et al. do not have to show two permanent magnets because Hartman shows two magnets (24).

As a result, the rejection is still deemed proper and repeated hereinafter and made Final.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 9 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Kuriyama.

Regarding claim 9, Kuriyama shows an electrical apparatus (Figure 1) comprising:

- A swing arm (7),

- At least two permanent magnets (5, left and right);
- At least one electrical coil (8) movably supported by the swing arm which coil is arranged to be traversed by magnetic fields of the permanent magnets;
- A cage (2-4), enclosing the coil and the permanent magnet, which cage acts as a closed magnetic return path (inherently because 2-4 are made of soft iron);
- Characterized in that the cage (2-4) comprises, at its side that is remote from the pivot (9), a shielding wall (3, left – wall 3 can shield stones and electromagnetic fields and waves) having an opening (10) in the area (defined by two side edges of magnet 5) of the magnets (5, left and right).

Regarding claim 17, it is noted that Kuriyama also shows all limitations of the claimed invention.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-4 and 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niemela in view of Hartman.

Regarding claim 1, Niemela shows an electrical apparatus (Figures 1-6) having an actuator including at least two magnetic poles (38, 39) and at least one electrical coil

with a swing arm (32), and means (44) for exerting a permanent return force for the excursions of the swing arm (32).

Niemela does not show the electrical coil which is movably supported by means of a swing arm, which coil is arranged to be traversed by magnetic fields of the permanent magnets, the actuator having a cage, which encloses the coil and the permanent magnets, as a closed magnetic return path. Niemela uses moving magnet and non-moving coil.

Hartman shows the electrical coil (22, Figures 2-4) which is movably supported by means of a swing arm (38), which coil is arranged to be traversed by magnetic fields of the permanent magnets (62, 64), the actuator having a cage (25), which encloses the coil and the permanent magnets, as a closed magnetic return path for the purpose of reducing power consumption. Hartman uses moving coil and non-moving magnets.

Since Niemela and Hartman are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the actuator of Hartman for the purpose discussed above.

Regarding claim 2, it is noted that Hartman also shows the cage made of soft-iron or steel and shaped so as to shield the magnetic stray fields of the magnets.

Regarding claim 3, it is noted that Hartman also shows the swing arm, which is secured to the coil supported on a pivot, and the pivot arranged at an inner side of the permanent magnets except for the magnets being sector-shaped.

Regarding claim 4, it is noted that Niemela also shows the swing arm which is supported on a pivot, being preloaded with respect to a housing by means of a torsion spring (44).

Regarding claim 12, it is noted that Niemela also shows there being only a single swing arm (32)

Regarding claim 13, it is noted that Niemela also shows:

- A housing (14, Figure 3); and
- A pivot (51);
- The swing arm (32) being fixed to a pivot (51); and
- The pivot (51) being mounted on the housing (Figure 3) outside the cage (55);
and Hartman also shows the coil (22) being mounted on the swing arm;

Regarding claim 14, it is noted that Niemela also shows the swing arm being adapted to drive a load (21a) on an end of the swing arm that is remote from the coil (22, if Hartman's actuator is used).

Regarding claim 15, it is noted that Hartman also shows the permanent magnets are sector shaped (Figure 4); and a load (Figure 2) to be driven by the swing arm, which load is outside the sector shaped magnets.

Regarding claim 16, it is noted that Hartman also shows the permanent magnets are sector shaped (Figure 4).

7. Claims 5, 7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niemela in view of Hartman as applied to claim 1 above, and further in view of Motohashi et al.

Regarding claim 5, it is noted that Niemela and Hartman show all of the limitations of the claimed invention except for the use of blade spring. Niemela use coil springs (44).

Motohashi et al. show the use of blade spring (31A, and coil springs 31 is needed) for the purpose of making a shaver.

Since Niemela, Hartman, and Motohashi et al. are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the blade spring as taught by Motohashi et al. for the purpose discussed above.

Regarding claim 7, it is noted that Motohashi et al. also show the pivot being replaced with a point of attachment to a housing, where the swing arm is attached by means of a blade spring (31A).

Regarding claim 10, it is noted that Motohashi et al. also show the electrical apparatus being an electrically driven shaving apparatus.

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hartman in view of Hanrahan et al.

Regarding claim 6, Hartman shows an electrical apparatus comprising:

- A swing arm (38);
- At least two permanent magnets (24, Figure 3);

- At least one electrical coil (22), movably supported by the swing arm which is arranged to be traversed by magnetic fields of the permanent magnets; and
- A cage enclosing the coil and the permanent magnets, which cage acts as a closed magnetic return path,
- Characterized in that:
- The permanent magnets are sector shaped (Figure 4);

Hartman does not show:

- The apparatus comprising at least first and second swing arms;
- At least a second pivot is arranged at the outer of the sector-shaped permanent magnets, and
- At least one pivot joint is present, which pivot joint couples the first swing arm supported on a first pivot and the second swing arm supported on the second pivot in a pivot able manner and so as to be slidable with respect to one another, the pivots being secured to a housing.

For the purpose of controlling the head motion, Hanrahan et al. clearly show:

- The apparatus comprising at least first and second swing arms (18A, 23);
- At least a second pivot (16) is arranged at the outer of the sector-shaped permanent magnets (24 in Hartman, not shown in Hanrahan et al.), and
- At least one pivot joint (22) is present, which pivot joint couples the first swing arm (18A) supported on a first pivot (16) and the second swing arm (23) supported on the second pivot (22) in a pivot able manner and so as to be

slidable with respect to one another, the pivots (16, 22) being secured to a housing (30 in Hartman, not shown in Hanrahan et al.)

Since Hartman and Hanrahan et al. are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to make the actuator with first and second pivot points as taught by Hanrahan et al. for the purpose discussed above.

9. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Motohashi et al. in view of Hartman.

Regarding claim 11, Motohashi et al. show an electrically driven shaver comprising a shaver actuator, the actuator comprising:

- A swing arm (39A, column 4, lines 25-28);
- At least two permanent magnets (32A, 32B);

Motohashi et al. do not show:

- At least one electrical coil movably supported by the swing arm, which coil is arranged to be traversed by magnetic fields of the permanent magnets; and
- A cage enclosing the coil and the permanent magnets, which cage acts as a closed magnetic return path.

Motohashi et al. use non-moving coil and moving magnets.

Hartman shows an actuator with the magnets (24) and the cage (25) acting as a closed magnetic return path and moving coil (22) for the purpose of increasing the flux strength.

Since Motohashi et al. and Hartman are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the actuator of Hartman for the purpose discussed above.

Allowable Subject Matter

10. Claim 8 is allowed.
11. Claims 18 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Information on How to Contact USPTO

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dang D Le whose telephone number is (703) 305-0156. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

October 28, 2003

A handwritten signature in black ink, appearing to read 'Dang D Le', written in a cursive style.

DANG LE
PRIMARY EXAMINER